

# SOUTHERN ENVIRONMENTAL LAW CENTER

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**Re: Comments on Proposed Revisions to Regulations for Listing Endangered and Threatened Species and Designating Critical Habitat (Docket ID: FWS-HQ-ES-2020-0047)**

Dear Mr. Frazer and Mr. Rauch:

The Southern Environmental Law Center (“SELC”) submits the following comments in opposition to the U.S. Fish and Wildlife Service’s (“USFWS”) and National Marine Fisheries Service’s (“NMFS”) proposal to add a definition of “habitat” to the Endangered Species Act’s (“ESA” or “Act”) implementing regulations.<sup>1</sup> We submit these comments on behalf of 64 organizations working to protect the natural resources of the Southeast, including the states of Virginia, North Carolina, South Carolina, Tennessee, Georgia, and Alabama.

In shaping legislation to address species extinction, Congress started from the finding that destruction and degradation of natural habitats are the primary drivers of extinction and biodiversity loss across the United States.<sup>2</sup> Despite significant efforts to prevent extinction, however, biodiversity loss remains a significant and rapidly increasing problem in the

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<sup>1</sup> Endangered and Threatened Wildlife and Plants; Regulations for Listing Endangered and Threatened Species and Designating Critical Habitat, 85 Fed. Reg. 47,333 (proposed Aug. 5, 2020) (to be codified at 50 C.F.R. pt. 424).

<sup>2</sup> See *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 178-79 (1978) (citing legislative history, including H.R. Rep. No. 93-412); see also, e.g., David S. Wilcove et al., *Quantifying threats to imperiled species in the United States: Assessing the relative importance of habitat destruction, alien species, pollution, overexploitation, and disease*, BIOSCIENCE (Aug. 1998).

Southeast,<sup>3</sup> across the United States, and abroad. Habitat degradation and loss are still the leading causes of extinction, a problem that will only get worse with climate change. If we are to remain committed to the goals of the ESA in the face of these challenges, protecting both occupied and unoccupied habitat to provide for the survival and recovery of listed species is of paramount importance.

Unfortunately, the regulation proposed by USFWS and NMFS (“the Services”) would undermine this purpose. The Services have proposed a new and unnecessary definition of the term “habitat” to be included with the definitions listed at 50 C.F.R. § 424.02. While the ESA defines “critical habitat,”<sup>4</sup> the term “habitat” is not defined in the statute and has not been previously defined by regulation. The proposal presents:

*Proposed Definition:* The physical places that individuals of a species depend upon to carry out one or more life processes. Habitat includes areas with existing attributes that have the capacity to support individuals of the species.

*Alternative Definition:* The physical places that individuals of a species use to carry out one or more life processes. Habitat includes areas where individuals of the species do not presently exist but have the capacity to support such individuals, only where the necessary attributes to support the species presently exist.<sup>5</sup>

Both of these options limit the agencies’ ability to protect and restore the habitats species need to recover, and we accordingly oppose them and address their impacts together in this comment letter.<sup>6</sup> Instead, we call on the Services to continue to use their expertise and the definition of “critical habitat” provided by Congress in the Act to best provide for the conservation of listed species.

In addition to limiting the identification and protection of designated “critical habitat,” the Services’ definition would likely have other significant impacts throughout the Act, and in conjunction with other conservation statutes and regulatory schemes as well. The term “habitat” is used in the ESA outside of the “critical habitat” context, for example, in listing determinations,<sup>7</sup> habitat conservation plans,<sup>8</sup> and even Section 7 consultations.<sup>9</sup> Other statutes that are often implicated by actions related to listed species similarly use the term “habitat” and could be affected by this proposal. The Services fail to acknowledge any of these impacts in their proposal.

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<sup>3</sup> For the purposes of this comment letter, “the Southeast” is defined to include Virginia, North Carolina, South Carolina, Georgia, Alabama, and Tennessee.

<sup>4</sup> 16 U.S.C. § 1532(5).

<sup>5</sup> 85 Fed. Reg. at 47,334.

<sup>6</sup> Because the impacts of the Proposed Definition and Alternative Definition are largely the same, references to the “proposed definition” or “the Services’ proposal” in this comment letter should be understood to refer to both the Proposed Definition and the Alternative Definition. When the terms of the two definitions are analyzed individually, in Part III.B, they will be referred to as the Proposed Definition and the Alternative Definition.

<sup>7</sup> 16 U.S.C. § 1533(a)(1)(A); 50 C.F.R. § 424.11(c)(1).

<sup>8</sup> 16 U.S.C. § 1539(a)(2)(A); 50 C.F.R. § 17.3; *see also* U.S. FISH & WILDLIFE SERV. (USFWS) & NOAA FISHERIES, HABITAT CONSERVATION PLANNING AND INCIDENTAL TAKE PERMIT PROCESSING HANDBOOK (Dec. 21, 2016).

<sup>9</sup> 16 U.S.C. § 1536; 50 C.F.R. § 402.02; 50 C.F.R. § 402.12; USFWS, FINAL ESA SECTION 7 CONSULTATION HANDBOOK (1998), at 4–35.

As explained in detail below, the definition put forth by the Services is not necessary. Furthermore, it is contrary to the conservation mandate of the ESA. The proposed definition would significantly narrow the Services' ability to protect and restore habitats for imperiled species, and adversely affect their survival and recovery. If the Services nonetheless insist on defining "habitat" by regulation, they must first carefully consider all of these potential consequences and adopt a definition that is sufficiently broad to account for species' present and future recovery needs.

The Southeast boasts an astounding level of species and habitat diversity, from rivers and wetlands to coasts and oceans. In 2016, the Southeast was recognized as one of only two Global Biodiversity Hotspots in the United States.<sup>10</sup> To qualify for such a title, an area must have over 1,500 endemic plant species, and must have lost at least 70 percent of its natural habitat.<sup>11</sup> The Southeast exceeds these requirements, hosting over 1,800 endemic plant species, and having 85.5 percent of its natural habitat "highly altered or converted to anthropogenic land cover."<sup>12</sup> The proposed rule threatens these invaluable resources, which are already as imperiled as they are diverse. The Services must ensure that all species, but especially those in regions that have lost so much already, have the habitats they need to survive and recover.

## **I. HABITAT CONSERVATION IS ESSENTIAL TO SOUTHEASTERN ECOSYSTEMS<sup>13</sup>**

The Southeast is home to a multitude of species and habitats protected by the ESA, many of which are threatened by severe habitat degradation and loss. Across the Southeast, there are currently 254 species that receive ESA protections by their classification as either endangered (176), threatened (75), or experimental populations (32).<sup>14</sup> These species range from the iconic and critically endangered North Atlantic right whale (*Eubalaena glacialis*) to lesser-known mussels that play an important role in preserving the water quality of our region. Invertebrates like mussels and crayfish make up the largest taxonomic group of all Southeastern listed species, with 99 listed species. There are 68 listed plants, 42 listed fishes, 15 listed mammals, ten listed reptiles, nine listed birds, six listed amphibians, and five listed insects in our region alone. The majority of these species (237) are managed by USFWS, while eight are managed by NMFS, and nine are jointly managed by the two Services. Alabama leads the Southeast region in number of listed species with 145, followed by Tennessee with 102, Georgia with 86, Virginia with 84, North Carolina with 75, and South Carolina with 48.

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<sup>10</sup> Reed F. Noss, *Announcing the World's 36th Biodiversity Hotspot: The North American Coastal Plain*, CRITICAL ECOSYSTEM PARTNERSHIP FUND (Feb. 18, 2016), <https://www.cepf.net/stories/announcing-worlds-36th-biodiversity-hotspot-north-american-coastal-plain>.

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> To compile data discussed in this section, SELC reviewed the Environmental Conservation Online System (ECOS), which is an online public database containing records of listings and critical habitat designations, and the National Marine Fisheries Service ("NMFS") Species Directory. As needed, SELC also reviewed Federal Register notices and the Code of Federal Regulations.

<sup>14</sup> For a full list of listed species in the Southeast, see comments submitted by SELC on September 24, 2018 and associated Appendix, provided as Attachments 1-2. See also those comments for an extended discussion of the Southeastern habitats that are essential to species conservation in the Southeast. Please note that numbers may not necessarily add up because some species are listed differently based on their geographic range.

Currently, more than 77 million acres and 22,000 miles of critical habitat<sup>15</sup> have been designated in the Southeast to protect 77 different species of all taxonomic groups. These designated habitats range from small caves—like the tiny Key Cave in Alabama, which protects the Alabama cavefish (*Speoplatyrhinus poulsoni*)—to large swaths of ocean basin—like the loggerhead sea turtle’s (*Caretta caretta*) *Sargassum* habitat, which spans from the offshore waters of Delaware to Texas.

These threatened and endangered species across the Southeast depend upon appropriate habitat protections to survive, let alone recover—and stand to be harmed by the Services’ proposal to limit what areas are eligible to be considered “habitat” under the ESA.

### **A. Ongoing Habitat Loss Threatens Imperiled Southeastern Species**

According to the National Academy of Sciences, “there is no disagreement in the ecological literature about one fundamental relationship: sufficient loss of habitat will lead to species extinction.”<sup>16</sup> Indeed, habitat destruction and degradation are the leading causes of species imperilment and extinction, both in the United States and around the world.<sup>17</sup> The current global extinction rate is tens to hundreds of times higher than the background rate of extinction.<sup>18</sup>

The biodiverse habitats of the Southeast are no different; this area currently faces many threats from human activities—including development, logging, agriculture, pollution, poor land management, and introduction of invasive species, among others—and the impacts of human presence on habitats in the Southeast are becoming increasingly problematic. Eleven of the 20 fastest-growing metropolitan areas in the nation are found in the Southeast.<sup>19</sup> As these cities expand, urban sprawl is contributing significantly to the fragmentation and destruction of natural habitats in the region.<sup>20</sup> Habitat fragmentation introduces a host of threats to species and their habitats, such as by diminishing water quality, interrupting predator-prey relationships, decreasing the availability of foraging habitat, and hindering resilience from disturbance.<sup>21</sup> Densely developed areas may also facilitate the expansion of invasive species.<sup>22</sup>

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<sup>15</sup> Rivers, shoreline, and other linear habitat features are measured in miles, while non-linear habitat features such as lakes and ocean area are measured in acres.

<sup>16</sup> NAT’L RESEARCH COUNCIL, SCIENCE AND THE ENDANGERED SPECIES ACT 72 (1995).

<sup>17</sup> See, e.g., Stuart L. Pimm et al., *The biodiversity of species and their rates of extinction, distribution, and protection*, SCI. (May 30, 2014); Wilcove et al., *supra* note 2.

<sup>18</sup> INTERGOVERNMENTAL SCI.-POLICY PLATFORM ON BIODIVERSITY & ECOSYSTEM SERV., SUMMARY FOR POLICYMAKERS OF THE GLOBAL ASSESSMENT REPORT ON BIODIVERSITY AND ECOSYSTEM SERVICES (Sandra Díaz et al. eds., 2019), [https://ipbes.net/sites/default/files/2020-02/ipbes\\_global\\_assessment\\_report\\_summary\\_for\\_policymakers\\_en.pdf](https://ipbes.net/sites/default/files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf).

<sup>19</sup> U.S. CENSUS BUREAU, U.S. DEP’T OF COMMERCE, RELEASE NO. CB15-56, NEW CENSUS BUREAU POPULATION ESTIMATES REVEAL METRO AREAS AND COUNTIES THAT PROPELLED GROWTH IN FLORIDA AND THE NATION (2015), <https://www.census.gov/newsroom/press-releases/2015/cb15-56.html>.

<sup>20</sup> Adam J. Terando et al., *The southern megalopolis: Using the past to predict the future of urban sprawl in the Southeast U.S.*, PLOS ONE (July 23, 2014).

<sup>21</sup> *Id.*

<sup>22</sup> Sean B. Menke et al., *Urban areas may serve as habitat and corridors for dry-adapted, heat tolerant species; an example from ants*, URBAN ECOSYSTEMS (Sept. 9, 2010), provided as Attachment 3.

We discuss the impacts of the proposed definition of “habitat” on degraded habitats in section III.B.1, below.

## **B. Climate Change Will Increase Threats to Habitat**

To further complicate these issues, climate change is predicted to significantly transform habitats throughout the Southeast in the near future, introducing additional threats to the already imperiled species and habitats in the region.<sup>23</sup> The Intergovernmental Panel on Climate Change reports that human activities are estimated to have caused approximately 1.0°C (1.8°F) of global warming above pre-industrial levels, and global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if it continues to increase at the current rate.<sup>24</sup> Approximately 5% of global terrestrial land area may be expected to completely change ecosystem types (e.g., from temperate forest to arid savanna) at this level of warming.<sup>25</sup> Climate change will lead to habitat degradation and/or loss in myriad ways, including higher temperatures, increased drought, sea level rise, and increased storm frequency and intensity.<sup>26</sup> The pre-existing issue of development and urban sprawl in the Southeast will almost certainly hamper the ability of species to move in response to these threats.<sup>27</sup>

North Carolina, South Carolina, and Georgia are already among the U.S. states historically most hard hit by tropical storm systems, and there has been a substantial increase in the severity of Atlantic hurricane activity in the last several decades.<sup>28</sup> The Atlantic coast presently sees more Category 4 and Category 5 hurricanes compared to the 1980s, and further increases are projected.<sup>29</sup> This will put some species, like the red-cockaded woodpecker (*Picoides borealis*), at risk of extreme habitat loss because the old-growth pine forests in which they live and the large cavity trees that they depend upon for nesting are often felled during storms.<sup>30</sup>

In addition, researchers predict that areas in the southwestern portion of the Southeast region may experience drier conditions, while the northeastern areas may experience wetter conditions.<sup>31</sup> Many high-elevation forest species, like the endangered Shenandoah salamander (*Plethodon shenandoah*) in Virginia, and the threatened Red Hills salamander (*Phaeognathus*

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<sup>23</sup> Jennifer Costanza et al., *Assessing climate-sensitive ecosystems in the southeastern United States*, U.S. GEOLOGICAL SURVEY (2016), <https://pubs.er.usgs.gov/publication/ofr20161073>.

<sup>24</sup> Intergovernmental Panel on Climate Change, *2018: Summary for Policymakers*, in SPECIAL REPORT: GLOBAL WARMING OF 1.5°C (Valérie Masson-Delmotte et al. eds., 2018), <https://www.ipcc.ch/sr15/chapter/spm/>.

<sup>25</sup> *Id.* at 10.

<sup>26</sup> *See, e.g., id.* at 4, 7, 9, 13.

<sup>27</sup> Lee Hannah, *Climate change, connectivity, and conservation success*, CONSERVATION BIOLOGY (Dec. 2011), provided as Attachment 4.

<sup>28</sup> Xing Chen et al., *Variations in streamflow response to large hurricane-season storms in a southeastern U.S. watershed*, J. HYDROMETEOROLOGY (Feb. 2015), provided as Attachment 5.

<sup>29</sup> *See* Peter J. Webster et al., *Changes in tropical cyclone number, duration, and intensity in a warming environment*, SCI. (Sept. 16, 2005), provided as Attachment 6; Kevin J.E. Walsh et al., *Tropical cyclones and climate change*, WIRES CLIMATE CHANGE (Nov. 2015).

<sup>30</sup> *See, e.g.,* Steven M. Lohr et al., *Restoration, status, and future of the red-cockaded woodpecker on the Francis Marion National Forest thirteen years after Hurricane Hugo*, in RED-COCKADED WOODPECKER ROAD TO RECOVERY, 230–37 (Ralph Costa & Susan J. Daniels eds., 2004), provided as Attachment 7.

<sup>31</sup> CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THIRD NATIONAL CLIMATE ASSESSMENT (Jerry M. Melillo et al. eds., 2014), <https://nca2014.globalchange.gov/report/regions/southeast>.

*hubrichti*) in Alabama, are sensitive to environmental changes and are expected to suffer tremendously from warming temperatures.<sup>32</sup> Warmer and drier conditions will also likely increase the frequency and intensity of wildfires, which can devastate some habitats.<sup>33</sup> Finally, climate change may exacerbate threats to native species and ecosystems from invasive species that are better suited to the altered conditions,<sup>34</sup> such as the hemlock woolly adelgid, which can decimate forest ecosystems.<sup>35</sup>

Coastal populations and ecosystems in the Southeast are also threatened by sea level rise, which will erode shorelines, inundate wetlands, and facilitate saltwater intrusion. Using intermediate projections with emission rates similar to today, the interagency report led by NOAA anticipates 1.5 to 2 feet of sea level rise by 2050 along the South Atlantic coast.<sup>36</sup> By 2030, between 16 and 60 percent of all current nesting beach habitat for sea turtles and shorebirds in the Southeast is projected to be more vulnerable to erosion due to sea level rise.<sup>37</sup> Indeed, over 30 currently listed threatened or endangered species populations in the Southeast are already at risk from habitat destruction caused by sea level rise.<sup>38</sup>

Changing ocean currents are predicted to alter the distribution of many offshore prey species.<sup>39</sup> The North Atlantic right whale (*Eubalaena glacialis*) is one of the most critically endangered of all large whales, and continues to be killed or injured by entanglement in fishing gear and by collisions with ships. Federally protected critical habitat for the species' Southeastern calving grounds was expanded in 2016 to include waters off North Carolina and South Carolina.<sup>40</sup> Scientists have also noted in recent years that shifting prey distribution is impacting the survival and recovery of the species,<sup>41</sup> causing right whales to be present in times and places where they are at greater risk of human-caused injury and mortality, and impairing their fitness for successful reproduction.

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<sup>32</sup> Mary Lou Hoffacker et al., *Interspecific interactions are conditional on temperature in an Appalachian stream salamander community*, OECOLOGIA (2018).

<sup>33</sup> Melillo et al. eds, *supra* note 31.

<sup>34</sup> Daniel Simberloff, *Global climate change and introduced species in United States Forests*, SCI. TOTAL ENV'T (Nov. 15, 2000), provided as Attachment 8; Jeffrey S. Dukes & Harold A. Mooney, *Does global change increase the success of biological invaders?*, TRENDS IN ECOLOGY & EVOLUTION (Apr. 4, 1999), provided Attachment 9; Manuel-Angel Dueñas et al., *The role played by invasive species in interactions with endangered and threatened species in the United States: A systematic review*, BIODIVERSITY & CONSERVATION (Aug. 14, 2018), provided as Attachment 10.

<sup>35</sup> Melillo et al. eds, *supra* note 31.

<sup>36</sup> Projections are relative to sea level in the year 2000. William V. Sweet et al., *Global and Regional Sea Level Rise Scenarios for the United States*, NOAA (Jan. 2017), available at [tidesandcurrents.noaa.gov/publications/techrpt83\\_Global\\_and\\_Regional\\_SLR\\_Scenarios\\_for\\_the\\_US\\_final.pdf](https://tidesandcurrents.noaa.gov/publications/techrpt83_Global_and_Regional_SLR_Scenarios_for_the_US_final.pdf).

<sup>37</sup> Betsy von Holle et al, *Effects of future sea level rise on coastal habitat*, J. WILDLIFE MGMT. (Feb. 3, 2019), provided as Attachment 11.

<sup>38</sup> CTR. FOR BIOLOGICAL DIVERSITY, DEADLY WATERS: HOW RISING SEAS THREATEN 233 ENDANGERED SPECIES (2013).

<sup>39</sup> James W. Morley et al., *Projecting shifts in thermal habitat for 686 species on the North American continental shelf*, PLOS ONE (May 16, 2018).

<sup>40</sup> Endangered and Threatened Species; Critical Habitat for Endangered North Atlantic Right Whale, 81 Fed. Reg. 4,838 (Jan. 27, 2016).

<sup>41</sup> Nicholas R. Record et al., *Rapid climate-driven circulation changes threaten conservation of endangered North Atlantic right whales*, OCEANOGRAPHY (May 3, 2019), provided as Attachment 12.

It is likely that the Southeast will see high levels of biodiversity loss and large species range shifts as a result of these threats.<sup>42</sup> Researchers predict that while certain habitats will become inhospitable for some species, currently unsuitable habitats may become viable for some adapting species.<sup>43</sup> Studies have indicated that endangered mammals and birds are particularly affected by the changing climate.<sup>44</sup>

We discuss the impacts of the proposed definition of “habitat” on climate-affected habitats in section III.B.1, below.

## II. HABITAT CONSERVATION IS VITAL TO THE ENDANGERED SPECIES ACT

Despite these significant threats, the ESA was designed to address them. Indeed, habitat conservation underpins the very purpose and goals of the ESA. Congress enacted the ESA in 1973 because species of wildlife and plants across the United States were being “rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation.”<sup>45</sup> Legislative history shows that Congress regarded the threat of habitat loss as a prime driver of species extinction.<sup>46</sup> In particular, the Senate Conference Report recognized that “[o]ften, protection of habitat is the only means of protecting endangered animals which occur on non-public lands.”<sup>47</sup> Congress recognized that “[a]s we homogenize the habitats in which these plants and animals evolved...we threaten their—and our own—genetic heritage. The value of this genetic heritage is, quite literally, incalculable. ...Sheer self-interest impels us to be cautious.”<sup>48</sup> To abate the unfettered destruction of habitat driving extinction, the first purpose of the ESA is to “provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.”<sup>49</sup>

Importantly, conservation under the Act means not only the survival of these species and habitats, but recovery to the point at which the conservation measures provided by the statute are no longer necessary.<sup>50</sup> As acknowledged by the Supreme Court, “[t]he plain intent of Congress in enacting this statute was to halt and *reverse* the trend toward species extinction, whatever the cost.”<sup>51</sup> To achieve this, the USFWS has repeatedly acknowledged that “[i]dentification of the habitat needs of listed species and the conservation of such habitat is *the key to recovering*

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<sup>42</sup> See, e.g., Lynne Carter et al., *Southeast*, in IMPACTS, RISKS, & ADAPTATION IN THE UNITED STATES: FOURTH NATIONAL CLIMATE ASSESSMENT, VOL. II, 743-808 (David Reidmiller et al. eds., 2018); Emma P. Gómez-Ruiz & Thomas E. Lacher, Jr., *Climate change, range shifts, and the disruption of a pollinator-plant complex*, SCI. REPORTS (Oct. 1, 2019), provided as Attachment 13.

<sup>43</sup> Daniel A. Farber, *Separated at birth? Addressing the twin crises of biodiversity and climate change*, ECOLOGY (2015), provided as Attachment 14.

<sup>44</sup> Michela Pacifici et al., *Species’ traits influenced their response to recent climate change*, NATURE CLIMATE CHANGE (Feb. 13, 2017).

<sup>45</sup> 16 U.S.C. § 1531.

<sup>46</sup> See *Tenn. Valley Auth. v. Hill*, 437 U.S. at 179-80 (quoting and summarizing legislative history regarding habitat loss and destruction).

<sup>47</sup> S. REP. NO. 93-307, at 4 (1973); see also H.R. REP. NO. 93-412, at 9 (1973) (“The protection of habitat of endangered species is clearly a critical function of any legislation in this area.”).

<sup>48</sup> *Tenn. Valley Auth.*, 437 U.S. at 178 (quoting H.R. Rep. No. 93-412, pp. 4-5; H.R. Rep. No. 93-412, pp. 4-5 (1973)).

<sup>49</sup> 16 U.S.C. § 1531.

<sup>50</sup> 16 U.S.C. § 1532.

<sup>51</sup> *Tenn. Valley Auth.*, 437 U.S. at 184.

endangered and threatened species.”<sup>52</sup> As such, sound science—and the precautionary principle—underpin the ESA’s requirements for federal agencies to evaluate the impacts of actions they take, fund, or authorize.<sup>53</sup> Congress has directed agencies to use the best available science throughout the ESA, including in making determinations about which species are protected as well as the contours of the protections those species need to recover.<sup>54</sup>

As the Supreme Court has acknowledged, the recovery purpose of the ESA “is reflected in literally every section of the statute.”<sup>55</sup> Consequently, “[h]abitat considerations are a key part of virtually every process called for in the Act.”<sup>56</sup> The term “habitat” is foundational to the purposes of the ESA and the Act’s implementation for nearly 50 years. Defining that term now, and in such a narrow way, will undermine the conservation and recovery purposes of the Act, as detailed below.

### **III. THE SERVICES’ DEFINITION WOULD PREVENT CONSERVATION AND RECOVERY OF IMPERILED SPECIES**

The regulatory changes proposed by the Services would weaken habitat protections that have been critical to the conservation of the Southeast’s imperiled species. While the Services frame their proposed revisions as providing clarity to the meaning of “habitat,” in reality, these proposals would hamstring agencies’ efforts to protect habitats and ultimately recover threatened and endangered species. In the following ways, they would undermine the purpose of the ESA and its history of conservation success.

#### **A. A Definition of Habitat Is Unnecessary**

The Services have successfully implemented the ESA for nearly 50 years without formally defining the term “habitat” under the Act. Congress also passed on the opportunity to define “habitat” when it intentionally clarified any lingering uncertainties regarding the designation of critical habitat with the statutory definition of critical habitat that it added to the ESA in its 1978 amendments.<sup>57</sup> At that time, Congress reiterated that “[t]he ultimate goal of the Endangered Species Act is the conservation of the ecosystem on which all species, whether endangered or not, depend for survival.”<sup>58</sup>

The statute requires the Services to use the best available science in their determinations of which habitats are necessary to the conservation and recovery of a listed species.<sup>59</sup> The Services have for years used their scientific expertise consistent with this requirement to reach well-reasoned critical habitat designations. A standalone regulatory definition of “habitat” is superfluous to existing laws and regulations guiding critical habitat designations and only stands

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<sup>52</sup> Notice of Intent to Clarify the Role of Habitat in Endangered Species Conservation, 64 Fed. Reg. 31,871 (June 14, 1999).

<sup>53</sup> *Tenn. Valley Auth.*, 437 U.S. at 184 (explaining that the Act represents “the institutionalization of caution”).

<sup>54</sup> 16 U.S.C. §§ 1533(b)(1)(A), (b)(2), (b)(3); *id.* at § 1536(a)(2).

<sup>55</sup> *Id.*

<sup>56</sup> 64 Fed. Reg. at 31,871.

<sup>57</sup> Pub. L. No. 95-632, 92 Stat. 3751 (1978) (to be codified at 16 U.S.C. § 1532(5)).

<sup>58</sup> H.R. REP. No. 95-1625, at 16 (1978), reprinted in 1978 U.S.C.C.A.N. 9453, 9466.

<sup>59</sup> 16 U.S.C. § 1533(b)(2).

to undermine the conservation purposes of the ESA, as habitat is involved in the implementation of nearly every section of the Act.<sup>60</sup>

The Services provide no explanation for why a definition of “habitat” is suddenly needed now, after decades of successful implementation of the ESA without such a definition. To the extent the Services suggest recent case law requires a formal definition of “habitat,” such a claim is unfounded. First, the Supreme Court in *Weyerhaeuser Co. v. U.S. FWS*, 139 S. Ct. 361 (2018), did not make any such finding. Rather, the Supreme Court remanded the case for the lower court to determine whether the agency had used its expertise to make a habitat determination in the first instance. Second, in the Services’ first round of recent revisions to the ESA implementing regulations, finalized in 2019, the Services specifically stated that *those* revisions responded to the decision. Indeed, those far-reaching regulatory changes already scaled back the Services’ ability to designate and protect critical habitat, and unoccupied or degraded critical habitat in particular.<sup>61</sup>

While we strongly oppose the Services’ 2019 changes to the ESA’s implementing regulations, whatever concerns the Services claim to address with the habitat definition have already been addressed by those regulatory changes. The Services’ habitat definition, as written, strips the ability of Service staff to use their scientific expertise to determine what habitats must be protected in order to achieve the conservation goals of the ESA.

## **B. The Services’ Proposal Conflicts with the Statutory Definition of Critical Habitat and Will Impair Species Recovery**

Each of the definitions of “habitat” proposed by the Services is so narrow that it would directly conflict with the statutory definition of “critical habitat” and prevent unoccupied habitats, specifically provided for in the ESA, from being designated at all.

The most prominent way in which habitat features in the ESA is in the designation and protection of critical habitat. When endangered or threatened species are listed under the Act, the Services must designate areas that are essential to the conservation and recovery of the species as critical habitat.<sup>62</sup> Critical habitat may include areas that are not currently occupied by the species in addition to occupied areas.<sup>63</sup> The term critical habitat is defined by statute to mean—

“(i) the specific areas within the geographical area occupied by the species, at the time it is listed . . . on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and

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<sup>60</sup> See, e.g., 64 Fed. Reg. at 31,871 (“Habitat considerations are a key part of virtually every process called for in the Act.”).

<sup>61</sup> 84 Fed. Reg. at 45,022 (“We have addressed the Supreme Court’s holding in this rule by adding a requirement that, at a minimum, an unoccupied area must have one or more of the physical or biological features essential to the conservation of the species in order to be considered as potential critical habitat. We note that we do not in the rule attempt to definitively resolve the full meaning of the term ‘habitat.’”). See also comments submitted by SELC on September 24, 2018, provided as Attachment 1.

<sup>62</sup> See 16 U.S.C. § 1533.

<sup>63</sup> *Id.* § 1532(5).

(ii) specific areas *outside* the geographical area occupied by the species at the time it is listed . . . upon a determination by the Secretary that such areas are essential for the conservation of the species.”<sup>64</sup>

The first sentence of the Services’ Proposed Definition limits “habitat” to the “physical places that individuals of a species *depend upon* to carry out one or more life processes.”<sup>65</sup> The statutory definition for occupied critical habitat, by comparison, limits designation of occupied habitat to areas on which are found those physical or biological features *essential to the conservation* of the species.<sup>66</sup> In fact, this Proposed Definition of “habitat” could be read even more *narrowly* than the statutory definition of critical habitat. Occupied critical habitat must, according to the statute, contain the features essential to the *conservation* of the species. This means features not just necessary for the species’ *survival*, but also for its *recovery* to a non-imperiled state.<sup>67</sup> By contrast, the physical spaces that species “*depend upon* to carry out one or more life processes,” as required under the Proposed Definition, are equivalent to spaces with features that the species needs just to *survive*. While the specific language used in the Services’ Alternative Definition, which requires that species “use” these physical places, may be somewhat better in this regard, the Alternative Definition is still insufficiently protective of habitats and at odds with the purposes of the ESA.

The conflict between the proposed regulatory definitions and the statutory definition is even more concerning when applied to unoccupied critical habitat. For unoccupied critical habitat, Congress intentionally gave discretion to the Services to use the best available science to determine when habitats outside the range of the species at the time of listing must be designated and conserved in order to conserve the species itself.<sup>68</sup> The statute specifically omits the requirement that physical or biological features essential to the species’ conservation be present on unoccupied critical habitat when the unoccupied habitat is designated.<sup>69</sup> By contrast, the second sentence of both the Proposed Definition and the Alternative Definition of “habitat” proffered by the Services require that the attributes necessary to support the species must already exist in an area for it to be considered “habitat.”<sup>70</sup> This constraint is especially clear in the language of the Alternative Definition.<sup>71</sup> This defies the intent of Congress that unoccupied areas of land which must be protected and conserved in order to restore the species must still be designated as critical habitat, regardless of whether the physical and biological features required for occupied habitat are present.

Finally, while the Services emphasize that the proposed rule is prospective in nature,<sup>72</sup> previously finalized critical habitat designations may actually be revised at virtually any time.<sup>73</sup>

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<sup>64</sup> 16 U.S.C. § 1532(5)(A) (emphasis added).

<sup>65</sup> 85 Fed. Reg. at 47,334.

<sup>66</sup> 16 U.S.C. § 1532(5).

<sup>67</sup> See 16 U.S.C. § 1532(3) (“Conservation” means “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.”).

<sup>68</sup> See 16 U.S.C. §§ 1532(5) and 1533.

<sup>69</sup> See 16 U.S.C. § 1532(5).

<sup>70</sup> 85 Fed. Reg. at 47,334.

<sup>71</sup> *Id.*

<sup>72</sup> 85 Fed. Reg. at 47,335.

<sup>73</sup> 16 U.S.C. § 1533(a)(3)(A)(ii); see also 50 C.F.R. § 424.12.

Thus, the Services may reevaluate existing critical habitat designations under the new definition, thereby narrowing previously-designated critical habitat in a manner harmful to species conservation and recovery.<sup>74</sup>

At base, the Services' proposed habitat definition will fundamentally impair species recovery by barring the agencies from dealing with the greatest threats to imperiled species today. Those threats include habitat degradation, changing habitat needs in the face of climate change, loss and changes to seasonal and ephemeral habitat, and lack of information about historic range and precise life history requirements.

### 1. Degraded Habitat

As described in Section I, habitat loss is the primary driver of species extinction in the United States and around the world. Congress recognized this in enacting the ESA,<sup>75</sup> and the Services have recognized that “conservation and recovery of imperilled [sic] species is dependent upon habitat protection *and* restoration.”<sup>76</sup> Furthermore, habitat protection and restoration result in an increase in both the size and resilience of a population, and can even rescue struggling populations.<sup>77</sup>

Each of the definitions of “habitat” now proposed by the Services would prevent degraded habitat from being designated as critical habitat. These proposed definitions can fairly be read as requiring that in order for an area to be considered “habitat,” members of a species must be able to survive in that area if they moved there today, without any human involvement to restore or improve the area for habitability. This simply does not square with the reality that most species are at risk of extinction by the very fact that habitats across their historic range have been and continue to be destroyed, fragmented, or degraded to the point that they are no longer capable of supporting them, and their ranges and populations have shrunk and continue to decline as a result. By this logic, once a species has been driven from an area due to degradation, fragmentation, or destruction, that area ceases to be eligible for consideration as “habitat” at all, under any section of the ESA.

One example of such a species in the Southeast is the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). Historically, the iconic prehistoric fish thrived with large populations in many of the rivers along the Atlantic coastline.<sup>78</sup> Despite the long history of overfishing that initially caused Atlantic sturgeon numbers to dwindle, the failure of the population to rebound after a moratorium on directed fishing in 1998 “indicates that impacts and threats from limits on

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<sup>74</sup> The Services' current backlogs with ESA decisions and actions would only be exacerbated by creating a new definition to confuse long-standing practice. These backlogs would also likely impede timely designation of critical habitat based on “current” circumstances, given the delay between proposing and finalizing critical habitat designations. For a discussion on current backlogs faced by the agency, see comments submitted by SELC on September 24, 2018, provided as Attachment 1, pp. 13-14.

<sup>75</sup> See H.R. Rep. 93-412, at 5 (1973) (“The most significant [way in which man can threaten the existence of species of plants and animals] has proven also to be the most difficult to control: the destruction of critical habitat.”).

<sup>76</sup> 64 Fed. Reg. at 31,872.

<sup>77</sup> See, e.g., William D. Newmark et al., *Targeted habitat restoration can reduce extinction rates in fragmented forests*, PROC. NAT'L ACAD. SCI. (Sept. 5, 2017), provided as Attachment 15.

<sup>78</sup> Eric J. Hilton et al. *Review of the biology, fisheries, and conservation status of Atlantic sturgeon*, J. APPLIED ICHTHYOLOGY (2016), provided as Attachment 16.

habitat for spawning and development, habitat alteration, and bycatch are responsible for the risk of extinction” faced by the species.<sup>79</sup> Atlantic sturgeon habitat remains impaired today due to dams, dredging projects, and degraded water quality from development and industrial pressures. Dams pose a direct threat to the species by impeding access to historical spawning and juvenile development areas. On the Cape Fear River in North Carolina and the Santee and Cooper Rivers in South Carolina, dams block access to more than 60 percent of habitat that was historically used by Atlantic sturgeon for the critical life stages of spawning and juvenile development.<sup>80</sup> Dams also degrade downriver habitat by impacting key aspects of water quality such as flow, temperature, and oxygen levels.<sup>81</sup> In the listing decision for the Carolina and South Atlantic distinct population segments of the Atlantic Sturgeon, NMFS acknowledged that the Kerr Dam on the Roanoke River in Virginia has contributed to low dissolved oxygen levels and high temperatures in waters downstream—a combination that can be lethal to Atlantic sturgeon.<sup>82</sup>

The exclusion of degraded habitat will also impact the dozens of threatened and endangered plants and animals that nest on or inhabit beaches, such as sea turtles like loggerhead turtles (*Caretta caretta*), shorebirds such as piping plovers (*Charadrius melodus*), beach mice like the Alabama beach mouse (*Peromyscus polionotus ammobates*), and dune plants such as seabeach amaranth (*Amaranthus pumilus*). On developed coastlines, large stretches of beach habitat have been severely degraded by erosion control methods like sea walls and beach nourishment. These methods can result in the permanent loss of or barriers to suitable nesting sites and natural beach.<sup>83</sup> Furthermore, loss of wetland plants from bulkheads and other coastal development has severely degraded habitats essential to imperiled wetland species.<sup>84</sup>

Finally, this new interpretation of habitat will impact the highly endangered Gulf of Mexico Bryde’s whale (*Balaenoptera edeni*), a small, isolated population at severe risk of extinction. Whaling records suggest that this population historically occupied a broad range that included the entire Gulf of Mexico.<sup>85</sup> Presently, however, the population is severely restricted in range to the northeastern Gulf, off the coast of the Florida Panhandle.<sup>86</sup> This can be attributed to severe habitat degradation from oil and gas activity, including the presence of infrastructure, seismic noise, vessel traffic, and oil spills, throughout most of the western and central Gulf,

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<sup>79</sup> Final Listing Determinations for Two Distinct Population Segments of Atlantic Sturgeon in the Southeast, 77 Fed. Reg. 5,914, 5,917 (Feb. 6, 2012). *See also* Endangered and Threatened Species; Designation of Critical Habitat for the Endangered New York Bight, Chesapeake Bay, Carolina and South Atlantic Distinct Population Segments of Atlantic Sturgeon and the Threatened Gulf of Maine Distinct Population Segment of Atlantic Sturgeon, 82 Fed. Reg. 39,160 (Aug. 17, 2017).

<sup>80</sup> 77 Fed. Reg. at 5,968.

<sup>81</sup> 77 Fed. Reg. at 5,967; Hilton at el., *supra* note 78.

<sup>82</sup> 77 Fed. Reg. at 5,968.

<sup>83</sup> *See, e.g.,* Blair Witherington et al., *Sea turtle responses to barriers on their nesting beach*, J. EXPERIMENTAL MARINE BIOLOGY & ECOLOGY (2011), provided as Attachment 17.

<sup>84</sup> Aaron M. Ellison et al., *Loss of foundation species: consequences for the structure and dynamics of forested ecosystems*, FRONTIERS ECOLOGY & ENV’T (Nov. 1, 2005), provided as Attachment 18.

<sup>85</sup> Randall R. Reeves et al., *Insights from whaling logbooks on whales, dolphins, and whaling in the Gulf of Mexico*, GULF OF MEX. SCI. (June 2011), provided as Attachment 19.

<sup>86</sup> *See, e.g.,* Jason J. Roberts et al., *Density model for Bryde’s whale (Balaenoptera edeni) for the U.S. Gulf of Mexico*. DUKE UNIV. MARINE GEOSPATIAL ECOLOGY LAB (2015), [http://seamap.env.duke.edu/models/Duke-EC-GOM-2015/GOM\\_Brydes\\_whale\\_maps.html](http://seamap.env.duke.edu/models/Duke-EC-GOM-2015/GOM_Brydes_whale_maps.html).

which has resulted in the complete abandonment of most of the whale's historic range.<sup>87</sup> Presently, the Gulf of Mexico Bryde's whale is awaiting critical habitat designation; the proposed habitat definition would preclude the Services from protecting and restoring the very habitat that could be essential to the whale's recovery.

The Services' narrow definition of "habitat" will exclude such degraded but restorable habitats, leaving these areas that may be essential to species recovery unprotected. Given the amount of Southeast habitats that are already degraded, the Services' proposal will prevent an adequate amount of "move-in-ready" habitat from being protected to support both the survival and recovery of these species.

## 2. Climate Change-Affected Habitat

For the same reasons that the Services' proposed definition of "habitat" would prevent the designation of degraded or unoccupied habitat, it would also prevent the Services from designating areas that are likely to *become* habitat in the near future due to climate change. The proposed definition requires that an area can only be considered as habitat, and therefore only can be eligible for designation as critical habitat, if it already contains existing attributes (e.g., physical and biological factors) necessary to support the survival of the species.<sup>88</sup> But this static view of habitat will leave hundreds of threatened and endangered species that are expected to shift their ranges in response to climate change without habitat protections. For the Services to fulfill the conservation mandate of the ESA, they must be able to use the best available science to determine where habitats that are currently unoccupied and potentially unsuitable to species' habitation can be expected to nonetheless become essential to the survival and recovery of the species in the near future. The proposed definition, as presented, prevents them from doing so.

This will have significant implications for species vulnerable to sea level rise, shoreline erosion, heat waves, wildfires, and changes in river flow patterns. As discussed in Section I.B., it is well accepted within the scientific community that the ranges of both plant and animal species are already shifting and will continue to shift as a result of climate change.<sup>89</sup> These may include shifts in latitude or elevation, or inland shifts as coastal species adapt to a migrating shoreline. In the context of barrier island and marsh migration, for example, preserving future habitats may well be more important than preserving currently occupied habitats that are expected to be lost in the near future. Moreover, as discussed in Section I.A., the Southeast is prone to urban sprawl, a phenomenon that will already make it more difficult for species in this region to adapt their ranges in response to climate change.<sup>90</sup>

Experts predict that birds, reptiles, amphibians, marine species, cold-water aquatic species, and high-elevation species will be particularly susceptible to climate-change driven range shifts.<sup>91</sup> The Services' proposed rule would bar consideration of these shifts and prevent

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<sup>87</sup> Patricia E. Rosel & Lynsey A. Wilcox, *Genetic evidence reveals a unique lineage of Bryde's whales in the northern Gulf of Mexico*, ENDANGERED SPECIES RES. (July 31, 2014), provided as Attachment 20.

<sup>88</sup> 85 Fed. Reg. at 47,334.

<sup>89</sup> See, e.g., Carter et al., Gómez-Ruiz & Lacher, Jr., *supra* note 42.

<sup>90</sup> Hannah, *supra* note 27.

<sup>91</sup> Amielle DeWan et al., *Understanding the Impacts of Climate Change on Fish and Wildlife in North Carolina*, DEFENDERS OF WILDLIFE (Jan. 22, 2010),

proactive and preventative measures to protect needed habitat. For example, seven imperiled bird species in the Southeast are expected to lose over a quarter of their range due to heat waves under a worst-case warming scenario—the black rail (*Laterallus jamaicensis*), golden-winged warbler (*Vermivora chrysoptera*), least tern (*Sternula antillarum*), piping plover (*Charadrius melodus*), red-cockaded woodpecker (*Picoides borealis*), sandhill crane (*Grus canadensis*), and whooping crane (*Grus americana*).<sup>92</sup>

The proposed rule could also prevent necessary forward-thinking habitat protections for sea turtles. Sea level rise will inundate current sea turtle nesting sites and decrease available nesting habitat. By 2030, 47 percent of all current coastal habitat used for nesting by threatened loggerhead sea turtles (*Caretta caretta*) is projected to be more vulnerable to erosion due to sea level rise.<sup>93</sup> This habitat loss could be exacerbated by coastal development and other climate-induced changes such as increased storm intensity, which could lead to increased erosion and nesting habitat loss.<sup>94</sup> Scientists predict that warming temperatures from climate change will cause loggerhead sea turtles to shift their northern nesting boundaries northward, likely in order to maintain viable sex ratios of nests.<sup>95</sup> It is crucial that sea turtles receive the habitat protections necessary for their recovery once they reach these new areas.

### 3. Seasonal and Ephemeral Habitat

Though the Services claim in their Federal Register notice that the proposed habitat definition will be inclusive of “seasonally or intermittently used areas,” this is far from certain under the plain language of the proposed definition. The Proposed Definition limits habitat to areas containing attributes that species “depend upon” for their survival.<sup>96</sup> As discussed above, this is inherently problematic because it blurs any distinction between “habitat” and “critical habitat” and fails to capture elements necessary for a species’ recovery as a whole that may not be necessary for the survival of an individual member of the species. This becomes particularly apparent in the case of seasonal habitats, habitats that must be protected for range connectivity, and migration corridors. Additionally, both the Proposed Definition and Alternative Definition require that these attributes are currently present in a given area for it to be “habitat.”<sup>97</sup> This time constraint is highly problematic when applied to ephemeral habitats, which are by their very nature variable in time and space.

The endangered reticulated flatwoods salamander (*Ambystoma bishopi*), for example, is exclusively dependent upon ephemeral wetlands, which were once common across the wet pine

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[https://www.ncwildlife.org/Portals/0/Conserving/documents/ActionPlan/Revisions/Executive\\_Summary\\_Understanding\\_Climate\\_Change\\_Impacts\\_2009.pdf](https://www.ncwildlife.org/Portals/0/Conserving/documents/ActionPlan/Revisions/Executive_Summary_Understanding_Climate_Change_Impacts_2009.pdf).

<sup>92</sup> Chad B. Wilsey et al., *Survival by degrees: 389 bird species on the brink*, AUDUBON (2019),

<https://www.audubon.org/sites/default/files/climatereport-2019-english-lowres.pdf>.

<sup>93</sup> Von Holle et al, *supra* note 37.

<sup>94</sup> At the Archie Carr National Wildlife Refuge in Florida, more than a quarter of loggerhead nests were lost during Hurricane Irma in 2017. Karen Weintraub, *Many of Florida’s Sea Turtle Nests Were Destroyed by Hurricane Irma*, N.Y. TIMES (Oct. 6, 2017), <https://nyti.ms/2y0LgYv>.

<sup>95</sup> Mariana M.P.B. Fuentes et al., *Potential adaptability of marine turtles to climate change may be hindered by coastal development in the USA*, REG’L ENVTL. CHANGE (Aug. 19, 2020), provided as Attachment 21.

<sup>96</sup> 85 Fed. Reg. at 47,334.

<sup>97</sup> *Id.*

flatwoods of the Southeast, for its breeding success.<sup>98</sup> Though the salamanders spend most of their lives underground, they emerge in early winter to breed in these isolated ephemeral wetlands and require at least 11 weeks to metamorphose to adulthood. While the reticulated flatwoods salamander once occurred across southern Alabama, northern Florida, and southern Georgia, their historical range had been reduced to 18 percent of its original extent by 1997.<sup>99</sup> “The major threat to the reticulated flatwoods salamander is loss of both its longleaf pine–slash pine flatwoods terrestrial habitat and its isolated, seasonally ponded breeding habitat.”<sup>100</sup> Threats to the salamander are now even greater in the face of climate change. Because the only remaining populations are limited to single, isolated ponds, the loss of this pond from years of consecutive drought and drying results in the collapse of the local population.<sup>101</sup>

Leaving essential seasonal habitats unprotected greatly impacts highly migratory species such as sea turtles, birds, and marine mammals. Sea turtles, for example, rely on multiple habitats on a seasonal and temporary basis throughout their life history. Their complex life history encompasses terrestrial, inshore/estuarine, nearshore, and open ocean habitats in any given year. Accordingly, the loggerhead sea turtle’s (*Caretta caretta*) critical habitat is broken into six different types: Nesting, Nearshore Reproductive, Migratory, *Sargassum*, Breeding, and Overwintering.<sup>102</sup> The diverse nature of this designation showcases its importance in conserving the seasonal and temporary habitats upon which this species relies.

Stopover habitats that are occupied temporarily or sporadically such as during migration are also very important for bird species.<sup>103</sup> The entire Mid- and South Atlantic region is part of the Atlantic Flyway, an avian migratory corridor that stretches the entire length of the East Coast. Birds migrating from North America to Central and South America use points along the Atlantic coast as guideposts and resting places on their journeys. The endangered roseate tern (*Sterna dougallii dougallii*), for example, migrates along the Southeast coast from the northeastern U.S. to the Caribbean in the winter.

Finally, the North Atlantic right whale (*Eubalaena glacialis*), uses the entire East Coast as a migratory corridor, connecting calving grounds off the coast of Georgia and Florida with foraging grounds in the Mid- and North Atlantic. These and other imperiled animals in the Southeast rely on these stepping stones or unbroken corridors to facilitate migration, which may be of little value to the survival of an individual, but may nonetheless be key to population recovery.<sup>104</sup>

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<sup>98</sup> Houston C. Chandler et al., *Hindcasting historical breeding conditions for an endangered salamander in ephemeral wetlands of the Southeastern USA: Implications of climate change*, PLOS ONE (Feb. 24, 2016), provided as Attachment 22.

<sup>99</sup> Determination of Endangered Status for Reticulated Flatwoods Salamander; Designation of Critical Habitat for Frosted Flatwoods Salamander and Reticulated Flatwoods Salamander, 74 Fed. Reg. 6,700, 6,702 (Feb. 10, 2009).

<sup>100</sup> 74 Fed. Reg. at 6,702.

<sup>101</sup> 74 Fed. Reg. at 6,703.

<sup>102</sup> Critical Habitat for the Northwest Atlantic Ocean Loggerhead Sea Turtle Distinct Population Segment (DPS) and Determination Regarding Critical Habitat for the North Pacific Ocean Loggerhead DPS: Final Rule, 79 Fed. Reg. 39,856 (July 10, 2014).

<sup>103</sup> Justin Sheehy et al., *The importance of stopover habitat for developing effective conservation strategies for migratory animals*, J. ORNITHOLOGY (Ma. 29, 2011), provided as Attachment 23.

<sup>104</sup> NAT’L RESEARCH COUNCIL, *supra* note 16.

#### 4. Habitat That Is Not Well-Understood

Finally, the Services' proposed definition of "habitat" may be particularly detrimental to species whose habitat needs are not well known or understood. These are often the same species that are most imperiled. Under the statutory definition of critical habitat and regulatory guidance as it currently stands, the Services are able to look to the historic range of a species to ascertain what areas or general habitat types may be necessary to protect to ensure the species' recovery. In this manner, species are considered in the larger context of the ecosystems of which they are a part. This is in line with the ESA's focus on protecting whole ecosystems, not just individual species as isolated components of those ecosystems. Under the proposed definition put forth by the Services, however, staff may only look to areas of habitat that may be needed to recover the species if they can first identify the minimum physical and biological factors necessary to meet the precise life history requirements for survival of an individual of the species, and then subsequently analyze potential habitat areas for the presence of those discrete features.

This could have serious implications for the hundreds of freshwater mussel and snail species that call rivers and streams of the Southeast home. The Southeast is home to 60 percent of the nation's freshwater mussels, with over 95 species.<sup>105</sup> Mussels often serve as indicators of a stream or wetland ecosystem's health,<sup>106</sup> while also contributing to that health through their water filtration services.<sup>107</sup> Freshwater mussels are particularly sensitive to changes in water quality, in part because they are immobile for the entirety of their adult lives. Generally speaking, however, little is known about the specific life history requirements and historic ranges of many of these ecologically important animals. Further, scientists do not always know exactly what levels of contaminants affect which mussel species. Nonetheless, these essential components of healthy riverine ecosystems are dying off en masse across the Southeast, as well as across the country.<sup>108</sup> Nearly two dozen species of freshwater mussels are recently thought to have gone extinct in the Southeast alone.<sup>109</sup> For places like the Clinch River in Tennessee and Virginia, the loss of this natural filtration system even puts drinking water quality at risk. Under the Services' proposed definition of "habitat," our failure to understand the precise habitat attributes that freshwater mussels depend on to survive might be used as an excuse for failing to protect these endangered mussels, their habitats, and our water quality across the Southeast.

#### **C. The Meaning of "Habitat" Affects ESA Implementation Beyond Critical Habitat**

Habitat plays a role in virtually every aspect of how the ESA is implemented. As the Services have previously recognized, "[h]abitat considerations are a key part of virtually every

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<sup>105</sup> Charles Lydeard & Richard L. Mayden, *A diverse and endangered aquatic ecosystem of the Southeast United States*, CONSERVATION BIOLOGY (Aug. 1995).

<sup>106</sup> U.S. EPA, *An Introduction to Freshwater Mussels As Biological Indicators* (Nov. 2008).

<sup>107</sup> ALA. DEP'T OF CONSERVATION AND NAT. RES., FRESHWATER MUSSELS IN ALABAMA (2018), <https://outdooralabama.com/invertebrates/freshwater-mussels-alabama>.

<sup>108</sup> See, e.g., Wendell R. Haag, *Reassessing enigmatic mussel declines in the United States*, FRESHWATER MOLLUSK BIOLOGY & CONSERVATION (Dec. 19, 2019), provided as Attachment 24; Marion Renault, *Freshwater mussels are dying—Which is the likeliest culprit?*, WIRED (Apr. 18, 2020), <https://www.wired.com/story/freshwater-mussels-are-dying-which-is-the-likeliest-culprit/>.

<sup>109</sup> Renault, *supra* note 108.

process called for in the Act.”<sup>110</sup> Despite this, the Services have failed to analyze *any* implications of their proposed definition of “habitat” beyond the designation of critical habitat.

For example, the first factor to be considered in determining whether to list a species as threatened or endangered is the “present or threatened destruction, modification, or curtailment of its *habitat* or range.”<sup>111</sup> “For most species, the threats to habitat are the most important consideration when determining if a species qualifies for protection under the Act.”<sup>112</sup>

Once a species is listed, the primary means of protection to its individual members is through the Section 9 prohibition against take, which is defined by regulation to include harm to species by “significant habitat modification or degradation” that injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.<sup>113</sup> One of the limited exceptions for allowing incidental take is through a “habitat conservation plan,” which may explicitly designate habitat areas for restoration, acquisition, protection, or other conservation purposes.<sup>114</sup> Habitat conservation plans are an important mechanism by which the adverse impacts of incidental take are mitigated under the statute,<sup>115</sup> and they are equally important for species that have designated critical habitat and those that do not.<sup>116</sup> The Services, however, have failed to consider how “habitat” will affect the implementation of habitat conservation plans.<sup>117</sup>

Worse still, the Services’ Federal Register notice fails to acknowledge how the proposed definition would impact Section 7 consultation. Section 7 of the ESA requires federal agencies to consult with the Services to ensure that any action they carry out, authorize or fund is not likely to destroy or adversely modify critical habitat, or jeopardize the continued existence of listed species.<sup>118</sup> Indeed, the current ESA regulations define “action” with reference to habitat.<sup>119</sup> These restrictions only apply to federal actions and do not otherwise restrict the rights or actions of private landowners.<sup>120</sup> While it is obvious that areas not designated as critical habitat as a result of the definition will not be analyzed for “adverse modification” or destruction of critical habitat under Section 7, the definition will also impact how loss of habitat factors into the jeopardy analysis for species that do not have designated critical habitat.<sup>121</sup> For example, the Section 7 implementing regulations that discuss the contents of a biological assessment identify

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<sup>110</sup> Notice of Intent to Clarify the Role of Habitat in Endangered Species Conservation, 64 Fed. Reg. 31,871 (June 14, 1999); *see also* Notice of Interagency Cooperative Policy for the Ecosystem Approach to the Endangered Species Act, 59 Fed. Reg. 34,273 (July 1, 1994).

<sup>111</sup> 16 U.S.C. § 1533 (emphasis added).

<sup>112</sup> 64 Fed. Reg. at 31,871.

<sup>113</sup> 50 C.F.R. § 17.3.

<sup>114</sup> 16 U.S.C. § 1539(a)(2)(A); 50 C.F.R. § 17.3; *see also* USFWS & NOAA FISHERIES, HABITAT CONSERVATION PLANNING AND INCIDENTAL TAKE PERMIT PROCESSING HANDBOOK (Dec. 21, 2016).

<sup>115</sup> *See* 16 U.S.C. § 1539(a)(1)(A); 50 C.F.R. § 17.3; *see also* USFWS & NOAA FISHERIES, HABITAT CONSERVATION PLANNING AND INCIDENTAL TAKE PERMIT PROCESSING HANDBOOK (Dec. 21, 2016).

<sup>116</sup> *See* 64 Fed. Reg. at 31,872.

<sup>117</sup> *Cf.* 85 Fed. Reg. at 47,333-37.

<sup>118</sup> 16 U.S.C. § 1536(a)(2). This is in addition to the requirement to “insure that any action authorized, funded, or carried out by [any federal] agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species.” *Id.*

<sup>119</sup> 50 C.F.R. § 402.02 (defining action to include “actions intended to conserve listed species or their habitat”).

<sup>120</sup> *See* 16 U.S.C. § 1536.

<sup>121</sup> *See* 64 Fed. Reg. at 31,872.

“[a]n analysis of the effects of the action on the species and habitat,” as information that would properly be included in such assessment.<sup>122</sup> The required written request to initiate formal consultation under Section 7 must contain available information related to “the condition and location of the species’ habitat, including any critical habitat.”<sup>123</sup>

Still other provisions of the Act involving habitat conservation are implicated by this proposal. For example, Section 6 of the ESA provides for federal funding to support state agency acquisitions of habitat for conservation.<sup>124</sup> Habitat conservation also plays a large role in the development of species recovery plans under Section 4(f), and recovery plans include maps and descriptions of the habitats needed to recover the species.<sup>125</sup> Habitat is also a key component of several ESA programs including Safe Harbor Agreements designed to implement Section 10(a)(1)(A),<sup>126</sup> recovery crediting systems used to allow flexibility to federal agencies in their pursuit of conservation programs,<sup>127</sup> and conservation banks used to offset adverse impacts to species.<sup>128</sup>

In the Southeast, habitat protections pursuant to ESA Section 10 Safe Harbor Agreements and recovery crediting systems have played large roles in the conservation of the endangered red-cockaded woodpecker (*Picoides borealis*), which does not have designated critical habitat. This species, first federally listed as endangered in 1970, was once widespread across the Southeast, but by the time it was listed in 1970, fewer than 10,000 individuals remained.<sup>129</sup> Habitat loss was the primary driver of this decline, and continues to be a serious threat to the species today. Habitat restoration and conservation are central to attaining the species’ recovery goals, as the species is dependent upon mature longleaf pine forest stands greater than 60 years old for its survival.<sup>130</sup>

Recovery plans, habitat conservation plans, and other habitat-focused management tools would be neutered in their ability to provide accurate maps and descriptions of habitats needed to conserve and recover a species like the red-cockaded woodpecker if currently uninhabited areas needed for recovery can no longer be considered “habitat.” Again, the Services have failed to consider these likely consequences.

#### **D. Statutes Affected Other than ESA**

The far-reaching nature of the Services’ proposal goes beyond implementation of the ESA. A variety of other federal conservation-focused statutes and regulatory schemes use the

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<sup>122</sup> 50 C.F.R. § 402.12(f)(4).

<sup>123</sup> 50 C.F.R. § 402.14(c)(1)(iii).

<sup>124</sup> 16 U.S.C. § 1535(c).

<sup>125</sup> See 16 U.S.C. § 1533(f); 64 Fed. Reg. at 31,871-72; NMFS, INTERIM ENDANGERED AND THREATENED SPECIES RECOVERY PLANNING GUIDANCE, VERSION 1.4 (Oct. 2004).

<sup>126</sup> 16 U.S.C. § 1539(a)(1)(A); 50 C.F.R. § 17.22(c)(1) (endangered species); 50 C.F.R. § 17.32 (threatened species).

<sup>127</sup> Endangered and Threatened Wildlife and Plants; Recovery Crediting Guidance, 73 Fed. Reg. 44,761 (July 31, 2008).

<sup>128</sup> See U.S. DEP’T OF THE INTERIOR, GUIDANCE FOR THE ESTABLISHMENT, USE, AND OPERATION OF CONSERVATION BANKS (May 2, 2003).

<sup>129</sup> USFWS, RECOVERY PLAN FOR THE RED-COCKADED WOODPECKER (*PICOIDES BOREALIS*) SECOND REVISION (2003).

<sup>130</sup> *Id.* at 34.

term “habitat,” many of which are either implemented by the Services or else require the Services’ input and consultation. These other statutes and regulations largely leave the term “habitat” undefined—again underscoring that this term does not need to be defined for purposes of the ESA or otherwise. While the Services propose to codify this definition of “habitat” specifically within the implementing regulations of the ESA, the Services could easily default to incorporating this understanding of habitat—formally, or worse, informally—in their administration of other statutes. Other agencies could similarly look toward this new definition of habitat as a guide, thus amplifying the damage of this limiting definition.

For example, the Magnuson-Stevens Fishery Conservation and Management Act identifies “Habitat Areas of Particular Concern,”<sup>131</sup> and requires federal agencies “to consult with [NMFS] with respect to any action . . . proposed to be authorized, funded, or undertaken . . . that may adversely affect any *essential fish habitat*.”<sup>132</sup> Similarly, the Coastal Zone Management Act defines “coastal resource of national significance” as meaning “any coastal wetland, beach, dune, barrier island, reef, estuary, or fish and wildlife *habitat* . . . .”<sup>133</sup> The Army Corps of Engineers is required under the Water Resources Development Act to mitigate for all *habitat* losses caused by water resources projects.<sup>134</sup> And the National Wildlife Refuge Improvement Act requires that USFWS “provide for the conservation of fish, wildlife, and plants, *and their habitats* within the [National Wildlife Refuge] System,”<sup>135</sup> and directs comprehensive conservation plans developed under the Act to

identify and describe . . . (B) the distribution, migration, patterns, and abundance of fish, wildlife, and plant populations and related habitats within the planning unit . . . (E) significant problems that may adversely affect the populations and habitats of fish, wildlife, and plants within the planning unit and the actions necessary to correct or mitigation such problems . . . .<sup>136</sup>

Some statutes and regulations explicitly reference or incorporate the requirements or nomenclature of the ESA, and would presumably rely upon the Services’ corresponding definition of “habitat” under the ESA. For example, the Partners for Fish and Wildlife Act, dedicated to supporting private landowners voluntarily restore wildlife habitat, uses the term “habitat” repeatedly with reference to “Federal trust species,”<sup>137</sup> which means “migratory birds, *threatened species, endangered species*, interjurisdictional fish, marine mammals, and other species of concern.”<sup>138</sup> The Clean Water Act Section 404 guidelines—replete with the word “habitat”<sup>139</sup>—similarly use the ESA’s verbiage with relation to defining threatened or

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<sup>131</sup> 16 U.S.C. § 1867(c)(4).

<sup>132</sup> 16 U.S.C. § 1855(b)(2) (emphasis added).

<sup>133</sup> 16 U.S.C. § 1453(2).

<sup>134</sup> See 33 U.S.C. § 2283.

<sup>135</sup> 16 U.S.C. § 668dd (emphasis added),

<sup>136</sup> 16 U.S.C. § 668dd(e)(2).

<sup>137</sup> 16 U.S.C. §§ 3772-3773.

<sup>138</sup> 16 U.S.C. § 3772(1).

<sup>139</sup> E.g. 40 C.F.R. § 230.3(b) (defining aquatic environment and aquatic ecosystem using the word habitat); *id.* §230.3(m) (defining special aquatic sites with reference to habitat); *id.* § 230.93 (discussing compensatory mitigation requirements, using the word habitat repeatedly); *id.* §230.10(c)(3) (prohibiting discharges with “significant adverse effects” including “loss of fish and wildlife habitat”); *id.* § 230.75 (discussing how to minimize effects of discharges, using the word habitat repeatedly).

endangered species,<sup>140</sup> and in the prohibition of permitting a discharge that “[j]eopardizes the continued existence of species listed as endangered or threatened under the [ESA], or results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, . . . to be a critical habitat under the [ESA].”<sup>141</sup> The Clean Water Act 404 guidelines go so far as to declare that when Section 7 consultation under the ESA takes place with regard to a discharge, “the conclusions of the Secretary concerning the impact(s) of the discharge on threatened and endangered species and their habitat shall be considered final.”<sup>142</sup>

Several laws pertaining to management and preservation of forests integrate habitat-related standards under the ESA. For example, the Healthy Forests Restoration Act uses the term “threatened and endangered species habitat,” which in turn is defined with reference to species determined to be threatened or endangered under the ESA, critical habitat designation under the ESA, or recovery plans prepared under the ESA.<sup>143</sup> The presence of threatened or endangered species habitat is a criterion for authorized hazardous fuel reduction projects.<sup>144</sup> Still another forestry law, the Cooperative Forestry Assistance Act, allows federal funding and other assistance for state foresters to support private foresters to “carry out activities that are consistent with the purposes of this chapter, including . . . identifying, protecting, maintaining, enhancing, and preserving wildlife and fish species, including threatened and endangered species, and their habitats . . . .”<sup>145</sup> State and private restoration proposals under this law must include plans “to improve fish and wildlife habitats, including the habitats of threatened and endangered species.”<sup>146</sup> Additionally, land management plans under the National Forest Management Act must include “standards or guidelines, to maintain or restore the diversity of ecosystems and habitat types throughout the plan area.”<sup>147</sup> The “ecological conditions” and “plant and animal communities” that must be maintained under these plans are in turn defined in terms of “habitat,” which is itself undefined in the National Forest Management Act and its regulations.<sup>148</sup>

The undersigned do not suggest that importing the Services’ inappropriately-limited habitat definition into other statutes or regulations would be proper. In practice, however, federal and state agencies often coordinate any environmental reviews required of a particular action and attempt to efficiently reuse studies and analyses where possible.<sup>149</sup> Moreover, the same consultants are often retained to assist with preparation of studies or reports required by different statutes—meaning that a limited definition of “habitat” under the ESA could easily be

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<sup>140</sup> 40 C.F.R. § 230.30(a); *see* 16 U.S.C. §§ 1532(6), (20).

<sup>141</sup> 40 C.F.R. § 230.10(b)(3); *see* 16 U.S.C. § 1536(a)(2).

<sup>142</sup> 40 C.F.R. § 230.30(c).

<sup>143</sup> 16 U.S.C. § 6511(15).

<sup>144</sup> 16 U.S.C. § 6512(a)(5).

<sup>145</sup> 16 U.S.C. § 2102(a); *id.* § 2103a(d)(1); *see id.* § 2102(b) (authorizing Secretary to provide assistance to state foresters to coordinate measures on non-federal lands to improve fish and wildlife habitat).

<sup>146</sup> 16 U.S.C. § 2109a(e).

<sup>147</sup> 36 C.F.R. § 219.9.

<sup>148</sup> 36 C.F.R. § 219.19.

<sup>149</sup> *See, e.g.*, 50 C.F.R. § 402.06 (“Consultation, conference, and biological assessment procedures under section 7 may be consolidated with interagency cooperation procedures required by other statutes, such as the National Environmental Policy Act . . . or the Fish and Wildlife Coordination Act.”); 23 U.S.C. §§ 139(c)(5), (d) (setting forth interagency coordination process for environmental reviews and authorizing agencies to adopt and use environmental documents prepared for different agencies in context of transportation infrastructure projects).

adopted and utilized in other contexts. For example, the proposed widening and deepening of Wilmington Harbor channel in North Carolina will require Section 7 consultation regarding listed species and their critical habitat, as well as implicate the habitat mitigation provisions of the Water Resources Development Act, have impacts to essential fish habitat under the Magnuson-Stevens Fishery Conservation and Management Act, and require a Clean Water Act Section 404 permit, among other laws and regulations.<sup>150</sup>

Finally, in addition to the federal statutes and regulations we highlight above, many state statutes and regulations would likely be impacted by this proposal. Some states may expressly or informally look to the ESA's language in implementing their own conservation programs.

#### **IV. AN ENVIRONMENTAL IMPACT STATEMENT MUST BE PREPARED**

The National Environmental Policy Act ("NEPA") requires all federal agencies to prepare a "detailed statement" known as an Environmental Impact Statement ("EIS") that discusses the environmental effects of, and reasonable alternatives to, any "major federal action" by the agency that may significantly affect the environment.<sup>151</sup> "New or revised agency rules, regulations, plans, policies, or procedures," such as the Services' proposed regulation defining "habitat," are "major federal actions" for which an EIS should be prepared.<sup>152</sup>

As discussed throughout this letter, the Services have entirely failed to consider or disclose the significant impacts that its proposed habitat definition will have on endangered species and natural resources conservation. Instead, the Services invoke an improper categorical exclusion under 43 C.F.R. § 46.210(i) in an attempt to avoid preparing a full EIS. The regulations promulgated by the federal agency responsible for overseeing implementation of NEPA, the Council of Environmental Quality ("CEQ"), define "categorical exclusion" as "a category of actions which do not individually or cumulatively have a significant effect on the human environment."<sup>153</sup> Specifically, the Services state that the proposed rule falls under the categorical exemption found at 43 CFR 46.210(i) for "policies, directives, regulations, and guidelines: that are of an administrative, financial, legal, technical, or procedural nature."<sup>154</sup>

Clearly this proposal will have a significant effect on the human environment. As such, it must go through a full NEPA analysis.<sup>155</sup> Furthermore, the previous ESA regulatory rollbacks finalized in 2019 also did not go through NEPA analysis.<sup>156</sup> These environmental impacts of these changes must be considered together to avoid segmentation.

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<sup>150</sup> See Notice of Intent To Prepare a Draft Environmental Impact Statement (DEIS) for the Wilmington Harbor Navigation Improvement Project Integrated Feasibility Study and Environmental Report, New Hanover and Brunswick Counties, NC, 84 Fed. Reg. 48,131 (Sept. 12, 2019).

<sup>151</sup> 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1501.4.

<sup>152</sup> 40 C.F.R. § 1508.18(a).

<sup>153</sup> 40 C.F.R. § 1508.4.

<sup>154</sup> 85 Fed. Reg. at 47,336.

<sup>155</sup> See *Brady Campaign to Prevent Gun Violence v. Salazar*, 612 F.Supp.2d 1, 23 (D.D.C. 2009) (rejecting use of 43 C.F.R. § 46.210(i) in holding that the change in gun regulation on federal lands could have a significant environmental impact).

<sup>156</sup> See 84 Fed. Reg. 44,753, 44,759 (applying categorical exclusion to repeal of blanket 4(d) rule); 84 Fed. Reg. 44,976, 45,015 (applying categorical exclusion to Section 7 rule changes); 84 Fed. Reg. 45,020, 45,051 (applying categorical exclusion to Section 4 rule changes); see also Complaint, *Ctr. for Biological Diversity v. Bernhardt*,

**V. CONCLUSION**

The proposed regulatory changes would wreak havoc on Southeastern ecosystems, upending current and anticipated protections for rare species and habitats across the region. Given the current and projected biodiversity loss in the Southeast, how and where we protect habitats is vital to preventing the extinction and ensuring the long-term recovery of many iconic Southeast species. Stemming the extinction crisis requires more than protecting individual animals and plants; it also requires protecting their habitat as comprehensively as possible. The Services must return to the conservation-driven, science-based approach mandated by the ESA and should accordingly abandon their proposed definitions of “habitat” under the Act.

Thank you for your consideration of these comments.

Sincerely,



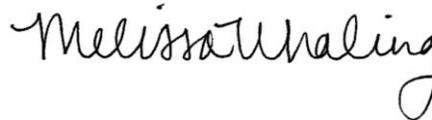
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3:19-cv-05206 (N.D. Cal. Aug. 21, 2019) (challenging invocation of categorical exclusion in aforementioned rule revisions); Complaint, *California v. Bernhardt*, 4:19-cv-06013 (N.D. Cal. Sept. 25, 2019).

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[Attachments]